

MANUFACTURING *Exclusively* DOOR CONTROLLING DEVICES

★ **DOOR CLOSER DEPENDABILITY.** The unanimous verdict of the most discriminating architects, builders, and building superintendents is that the Norton Door Closer is the most practical, mechanically-perfect door closer made. Repeated specifications and orders from the same sources bear out this testimony.

For over fifty (50) years Norton Door Closer Company engineers have been continuously engaged in the design of door closers. Back of them is the largest plant in the world devoted exclusively to the manufacture of door controlling devices — equipped with the most modern precision machinery obtainable.

Norton engineers are door closer specialists. Their advice and recommendations are available at any time for the satisfactory solution of unusual problems.

★ **NORTON RESPONSIBILITY ONLY BEGINS WITH THE SHIPMENT TO THE JOB.** Every Norton representative is a factory trained specialist in door closer application and operation. Invariably, as soon as installations are completed, each closer is inspected and tested by an experienced Norton representative to check and verify the closing operation and make sure that spring tension and regulation are correct for the particular door equipped.

This unique service policy is a part of every sale and is available to every customer. It is never left to chance or special demand. When the order is placed, this inspection and adjusting service is assured.

Norton Door Closer installations are covered by a two (2) year guarantee — see page 10.

★ **THERE ARE SIX DIFFERENT SIZES OF NORTON DOOR CLOSERS.** Norton Door Closers are made in six different sizes, each designed to properly control the size of door for which it is recommended. Under normal conditions, where no excessive draft exists, the following may be used as a guide to the correct size:

Size A — Ordinary screen doors or light interior doors — 2 ft. 6 in. x 6 ft. 6 in. x 1½ in. or smaller.

Size B — Heavy screen doors — 3 ft. x 7 ft. x 1¾ in.; and light interior doors — 2 ft. 8 in. x 7 ft. x 1¾ in.

Size C — Corridor or office doors — 3 ft. x 7 ft. x 1¾ in.; and light exterior doors — 2 ft. 6 in. x 7 ft. x 1¾ in.

Size D — Exterior doors — 3 ft. x 7 ft. x 2¼ in.; and heavy interior doors — 4 ft. x 7 ft. x 2¼ in.

Size E — Heavy exterior doors — 3 ft. 6 in. x 7 ft. 6 in. x 2¼ in.; and heavy interior doors subject to strong drafts.

Size F — Extra heavy entrance doors of unusual height or width, doors with heavy glass panels and doors subject to strong drafts require one size larger closer than recommended above.

NORTON PRODUCTS

In most of these six standard sizes the Norton Door Closer Company manufactures several types of closers and accessories for special purposes as follows:

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Specify
DOOR CLOSERS AS A
Special
HARDWARE ITEM

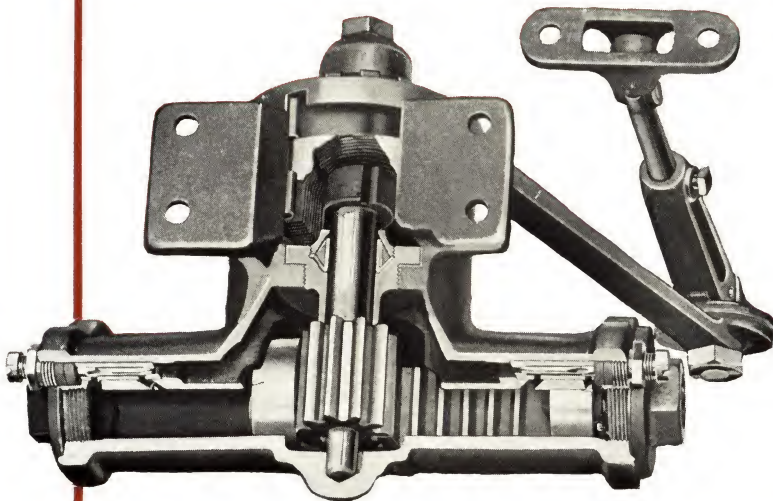
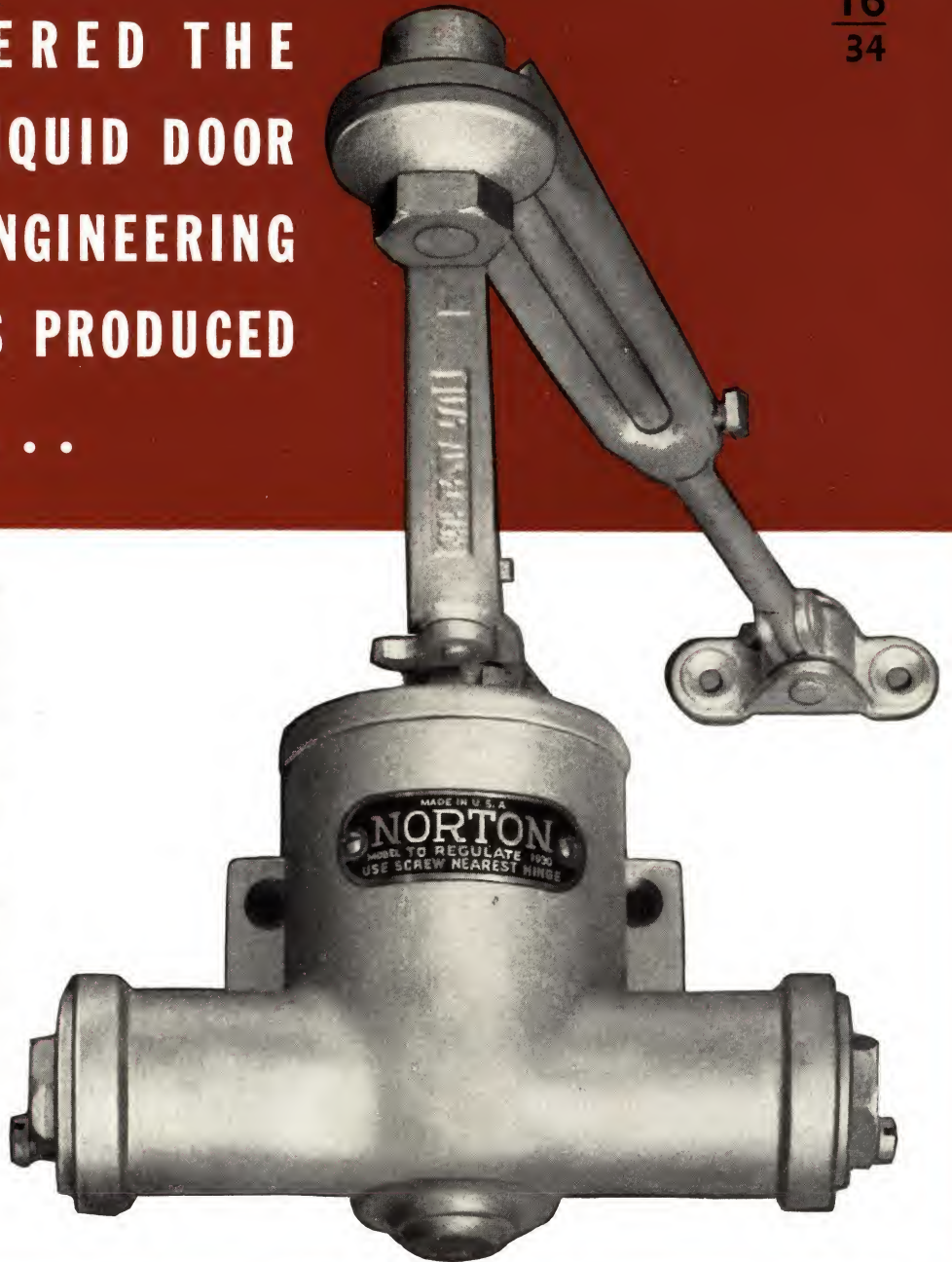
Door closers are a highly specialized mechanical device and have nothing in common with the ordinary trim hardware (butts, locks, latches, escutcheons, knobs, etc.). Their selection merits the same special attention and analysis given mechanical equipment used elsewhere in the building. Fair cost comparisons measured in terms of mechanical accomplishment (courted by Norton) are only possible where they are specified as a separate item (see page 10) divorced from the usual hardware trim list.

CONSIDERED THE FINEST LIQUID DOOR CLOSER ENGINEERING SKILL HAS PRODUCED TO DATE...

★ Mechanically the Norton Door Closer is as perfect as specialized engineering skill and fifty years of door closer experience can make it. All internal working parts and the end plugs are of steel, all machined to a high degree of accuracy and precision. Only two gray iron parts are used in the entire closer — the shell of special analysis gray iron and an iron ratchet.

There are a number of important individual features that only Norton offers, such as the use of mineral oil for checking and lubrication, a new packing nut that is absolutely guaranteed against leakage, and the Norton Rack and Pinion principle which positively holds the door under control every inch of the closing are.

TESTED AND APPROVED BY THE
NATIONAL BOARD OF FIRE
UNDERWRITERS



THE RACK AND PINION PRINCIPLE PROVIDES ABSOLUTE CONTROL...

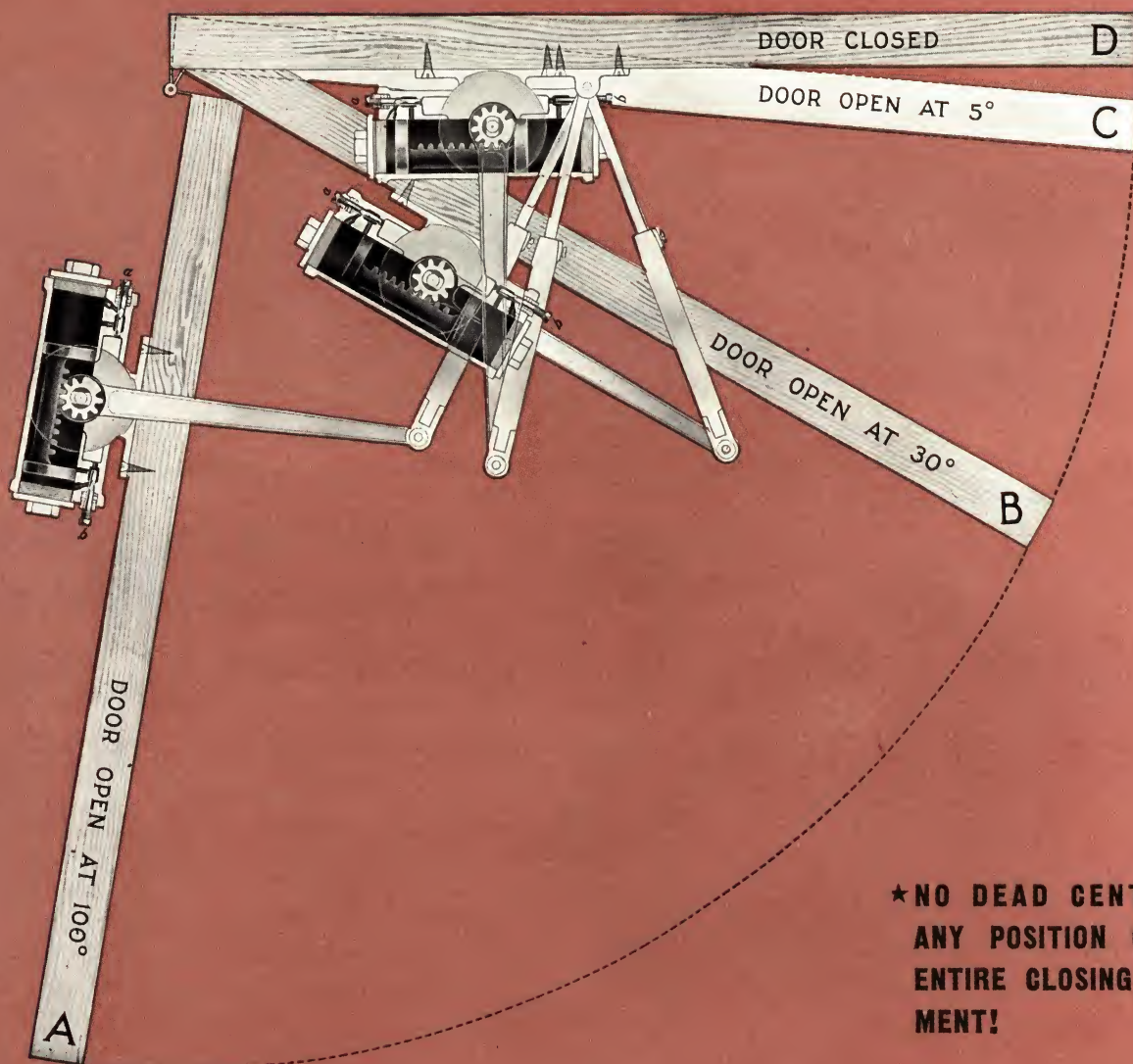
The Norton Rack and Pinion principle, with two-speed control, holds the door under absolute control from start to finish of the closing operation, and provides a separate "slow or fast" adjustment at the latch required for noiseless closing. No other principle of design can so well accomplish these objectives. This cut-away illustration shows the working principles and assembly of the Norton rack and pinion design.

THE *Norton* RACK AND PINION PRINCIPLE GUARANTEES POSITIVE CONTROL AT EVERY POINT

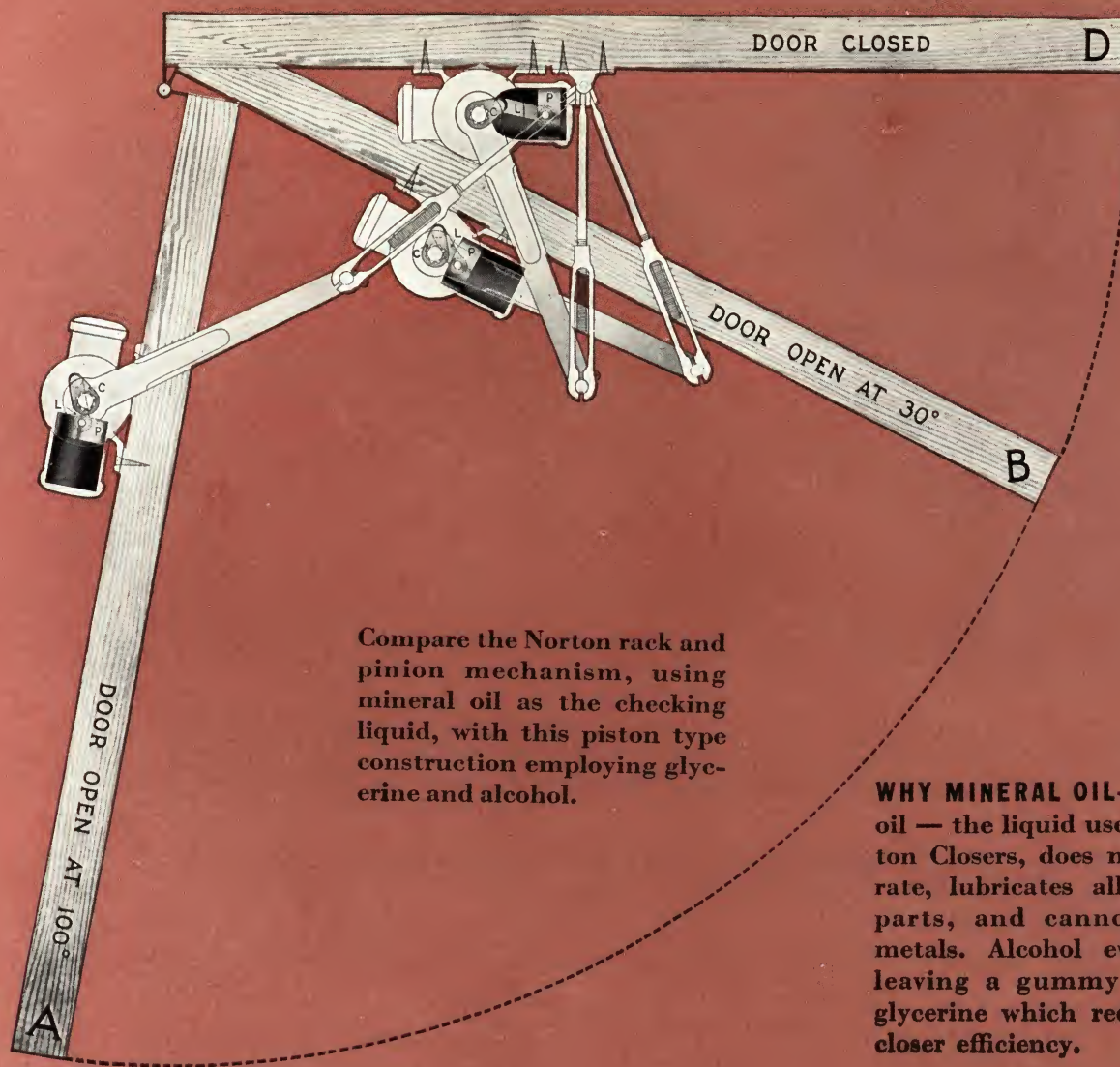
The Norton Rack and Pinion principle, with two speed control, positively holds the door under absolute control through the entire closing movement. It provides a separate adjustment at the latch, slow or fast, for noiseless closing or overcoming the many latch and draft conditions encountered in service.

In this rack and pinion type the piston is moved back and forth by a pinion working in a rack. There are no dead centers—the piston moves at uniform speed from

“A” to “C”. The instant the door starts to close the checking begins controlling the movement of the door at any speed desired. At “C” the speed can be regulated to “fast or slow” by the adjusting screw nearest the hinges. This two speed action is secured by one regulating screw combined with the rack and pinion movement. The Norton Closer, with its special process tempered steel spring, causes **NO STRAIN ON HINGES AND DOORS.**



★ NO DEAD CENTER AT
ANY POSITION OF THE
ENTIRE CLOSING MOVE-
MENT!



Compare the Norton rack and pinion mechanism, using mineral oil as the checking liquid, with this piston type construction employing glycerine and alcohol.

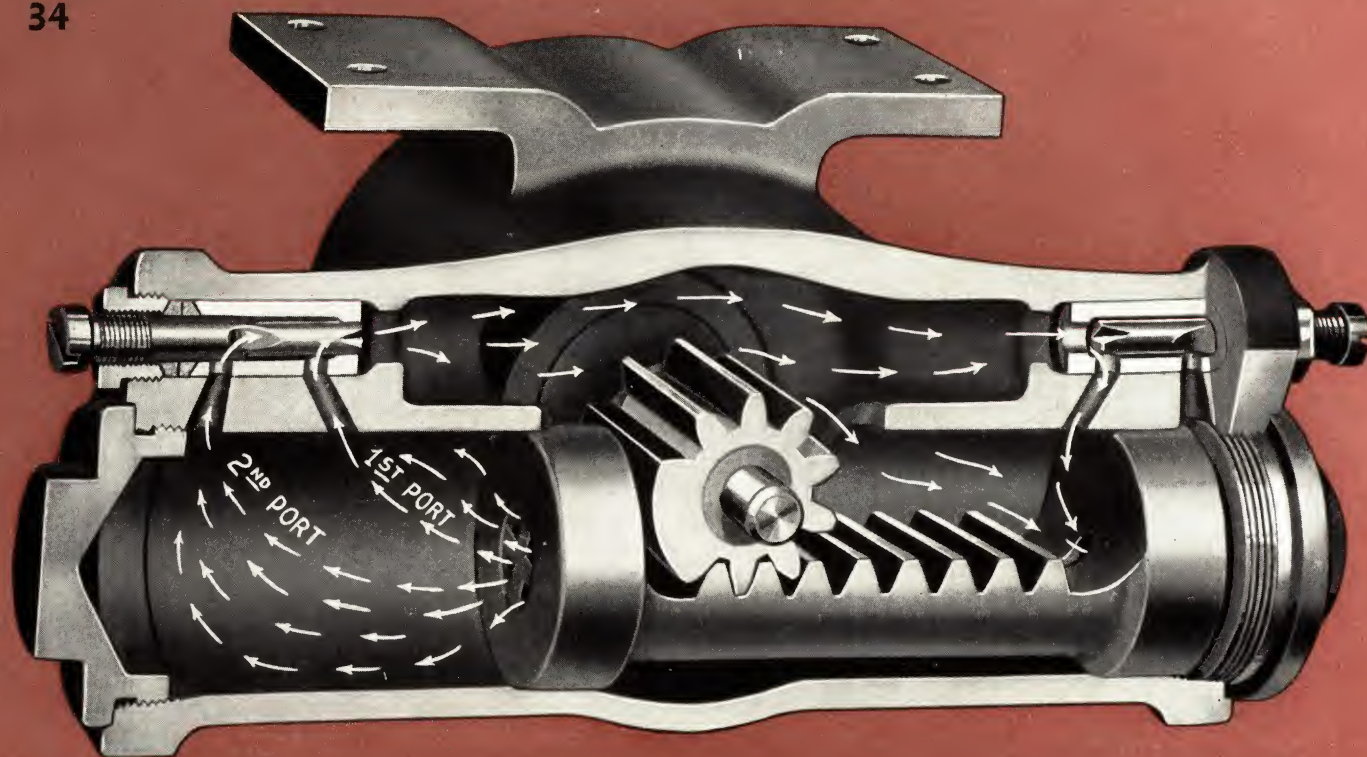
WHY MINERAL OIL—Mineral oil — the liquid used in Norton Closers, does not evaporate, lubricates all working parts, and cannot injure metals. Alcohol evaporates, leaving a gummy mass of glycerine which reduces the closer efficiency.

THE CRANK STYLE OF DOOR CLOSER GIVES ONLY PARTIAL CONTROL

Quarter Check Efficiency

The crank style door closer controls the door from points B to D only. Here the piston is moved back and forth in the cylinder by a crank and link. "P" is the piston, "L" the link, "C" the crank. The employment of the crank style principle results in but slight movement of the piston at two dead center points — when the door is opened about 30 degrees to

"B", the piston is drawn to full length of its stroke and when closed from "A" to "B" — there is no checking as the crank goes over the dead center point. Checking is actually confined to the distance between "B" and "D" and less effectively near "D". This brings great strain on hinges and doors.

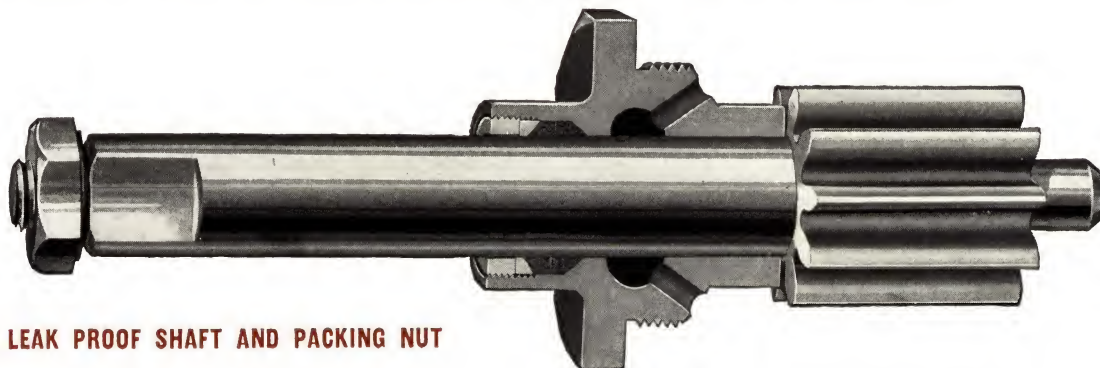


THE CROWNING ACHIEVEMENT IN DOOR CLOSER DESIGN

Here are illustrated the exclusive features of the Norton Door Closer construction. Shell of special analysis, annealed gray iron, strong and non-porous—all internal working parts and end plugs of steel—actuating spring of special process tempered spring steel, powerful, flexible, and non-breakable—arms of certified malleable iron—accurate machining to less than one thousandth of an inch. A special, high grade mineral oil is the checking liquid—it constantly lubricates vital working parts—its flow is illustrated above.

The Norton crowning achievement is the successful, non-leak feature. Oil, acknowledged to be the ideal checking

liquid, is difficult to retain under pressure. This is accomplished by the Norton time-tested shaft and packing gland construction shown below. Accurate machining holds the maximum clearance between shaft and bearing to .00125 of an inch—just sufficient to allow oil to pass for lubrication. This oil is collected in globules in the reservoir above the bearing and returned to the piston chamber through drip holes—it cannot climb above the reservoir because capillary attraction is broken at this point. The soft leather packing is used only to prevent leakage in case the closer is inverted in shipping and handling.



NORTON LEAK PROOF SHAFT AND PACKING NUT

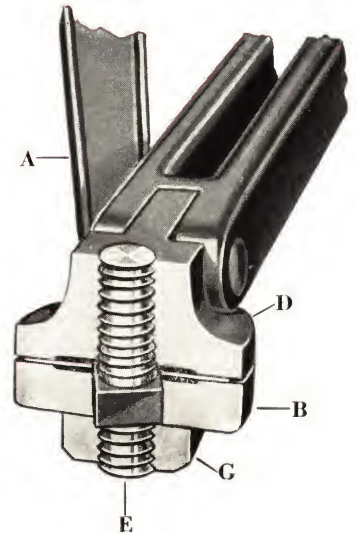
THE NORTON HOLDER ARM

May be set to hold the door open at any angle



For ordinary use, this closer controls the door in exactly the same manner as the regular arm closer; but because of a difference in the arm construction, it also holds the door open when desired. It may be easily released by giving it a slight pull. The arm can be regulated to hold at any point up to a 135° opening. For 135° to 180°, a slightly different arm is used which operates the same way.

When the door is opened, the main arm "A" prevents the jack-screw "E" from turning because of the square shank. At the same time the motion of the arms forces the holder head "D" to screw down on the jack-screw. That brings the surface of "B" and "D" together and the friction between them holds the door open. To prevent any possibility of "freezing" due to corrosion should the door be held open for long periods, a brass non-corroding disc is inserted between them. The point at which the door is held open is easily determined by adjusting the nut "G." This feature is valuable for entrance doors and doors to auditoriums, gymnasiums, and class rooms, and practically all public building doors.



And for Hospital Service:

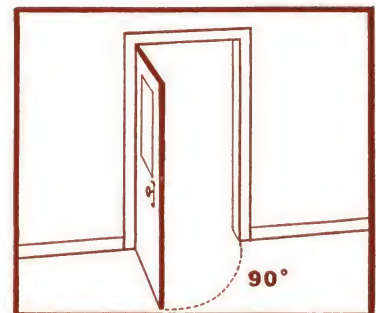
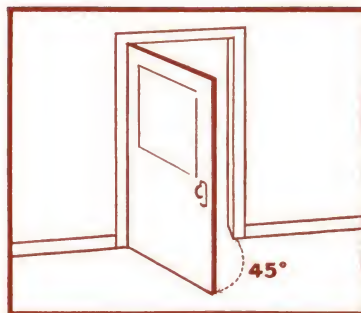
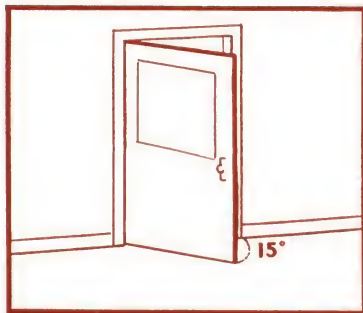
THERE IS THE NORTON 3 POINT HOLDER CLOSER

This closer is a variation of the famous Norton Holder Arm Closer and its control of doors held open at various degrees is illustrated in the three sketches below.

This special Norton Holder Closer operates as a regular closer, smoothly and quietly, but it also holds the door open at three points. The advantages for hospitals are apparent. When the door is pushed back, the unhampered passage of various hospital wheeled equipment is permitted.

When a partially closed door is desired to provide whatever degree of ventilation or privacy is needed, the Norton Three Point Holder Closer holds the door at either of the other two positions illustrated.

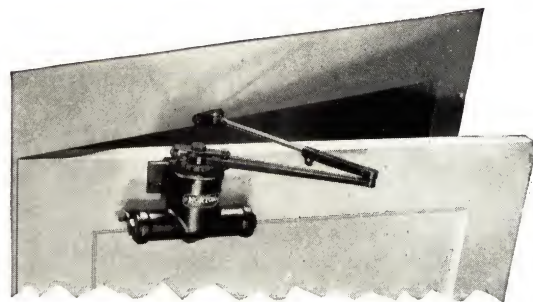
Such outstanding features of convenience have built leadership for the Norton Door Closer. Each individual closer has its special service to perform and should be carefully selected in order to get the most efficient operation.



NORTON TELEPHONE AND COUPON BOOTH DOOR CLOSERS

★ COUPON BOOTH DOOR CLOSER

The function of a coupon booth closer is to close the door securely while the booth is occupied to insure privacy and to keep it closed after the user has departed to protect anything that might have been left by mistake in the booth. After the guard has unlocked and inspected the booth, he opens the door a few inches and the closer holds it there to ventilate the booth and indicate a vacancy. This closer operates like the Three-Point Hospital Holder Closer except that it holds the door at one point only.



★ TELEPHONE BOOTH DOOR CLOSER

Every time the booth is used this closer returns the door to position about three or four inches from the jamb. This aids in ventilation and minimizes danger of damage from careless handling. The construction of this special feature is very simple. As the door nears the jamb, a pin in the cover catches a similar pin in the ratchet and checks the spring power. Then the inertia of the liquid in the closer stops the door and holds it there until the occupant pulls the door shut. The door cannot be slammed shut because the regulating screw controls the motion whether the operation is by the spring or by hand. We supply, without extra cost, a back check which controls the door so that it cannot be thrown back against a wall or door of another booth.

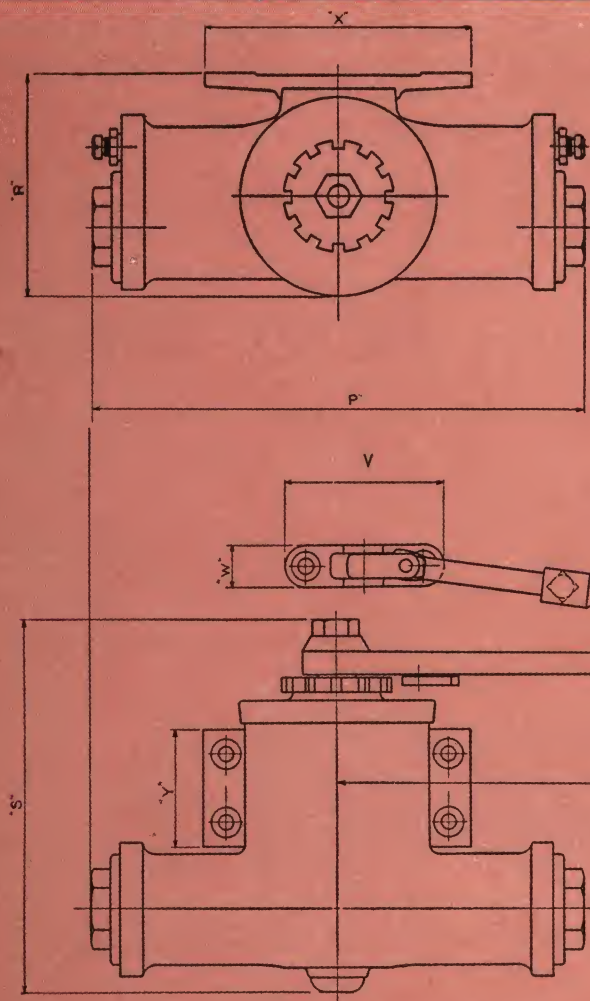
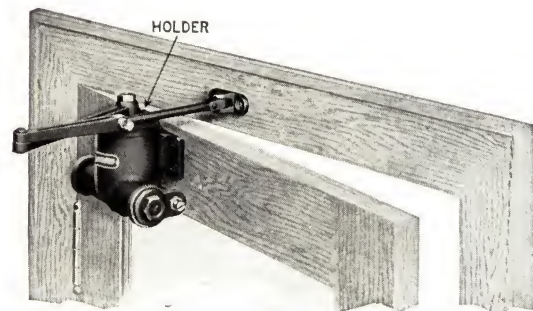


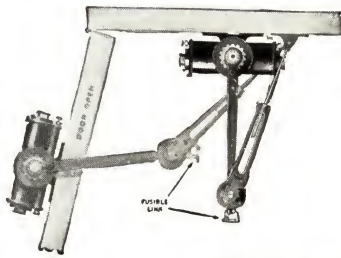
TABLE OF DIMENSIONS

Size of Closer	Dimensions							
	P	R	S	T	V	W	X	Y
A	6½	3⅛	4⅞	8	2⅝	1⅛	3⅝	1½
B	6⅞	3¼	5½	9	2⅝	1⅛	3⅝	1¾
C	8⅛	3⅝	6¼	9¾	2⅞	1⅛	4⅞	1⅝
D	8½	3⅞	6⅞	11	2⅞	1⅛	4⅞	2¼
E	9⅛	4⅛	7⅞	12	2⅞	¾	5¼	2⅝
F	9¾	4⅝	8¼	13	2⅞	¾	5¾	2⅞

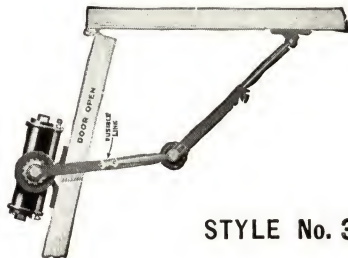
★ always specify Norton Door Closers . . . they cost no more than ordinary crank style closers!

NORTON FUSIBLE LINK ARMS *Simple and Unfailing*

GIVE POSITIVE AND UNFAILING PERFORMANCE IN ANY EMERGENCY



STYLE No. 5



STYLE No. 3

STYLE NO. 5

The Fusible Link Arm consists of two clamps and a fusible link which are assembled on a variation of a regular Norton Holder Arm. The clamps when closed put the adjusting nut in position to set the Door Closer arms at any desired angle. As the link fuses, the clamps fly apart so that the holder feature releases and the door closes under the pressure of the spring in the closer. In normal operation the arm looks like the regular Norton Holder Arm with the addition of a small, inconspicuous fusible link near the outer edge. When the holder is in use, the fusible link is in position directly in the door opening where an increase in the temperature (160°) will quickly fuse the link and release the holder arm, closing the door and preventing the further spread of the fire.

This style, tested and approved by the National Board of Fire Underwriters, can be set to hold the door in any predetermined position up to 135°. It requires only a slight push or pull to operate and is very simple. Made in four sizes—C, D, E, and F—in both regular and key types.

STYLE NO. 3

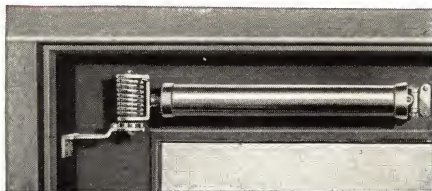
Style No. 3 is not approved by the National Board of Fire Underwriters. The arms are not reversible and it is necessary to specify the hand of the door and also whether or not the closer is to be used on a bracket. Standard arms permit opening to 135° and special arms to 180°.

BOTH STYLES OF FUSIBLE LINK ARMS CAN BE USED ON EITHER SIDE OF DOORS

We illustrate Norton Door Closers with Style No. 5 Fusible Link Arms installed on either side of the door. No. 3 can be used in a similar manner with all the advantages of the standard Norton Door Closer. The door is under complete control from the moment it is released until it is fully latched so that there is no uncontrolled rush with a sudden, jerking stop. By the use of only one regulating screw the closing motion can be changed to meet a great variety of conditions.



★ NORTON SCREEN DOOR CLOSERS

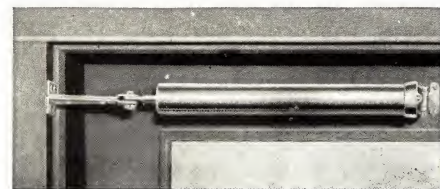


NO. 4 CLOSER

THE NO. 4 Norton Screen Door Closer is strongly built to function over a long period of time. Made with seamless brass, the tube will not rust.

The bracket, spring holder, and hinge plate are of heavy steel stampings which will not break. The piston is constructed with a spring to hold the cup leather washer against the side walls. This assures checking at all times. It is packed in individual cartons with full instructions for applying.

*Two No-Slam
Devices that will
stand hard usage*



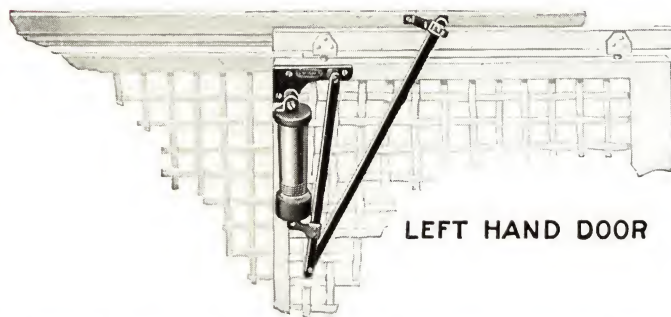
NO. 04 CLOSER

THE NO. 04 is a fine closer in the lower price class.

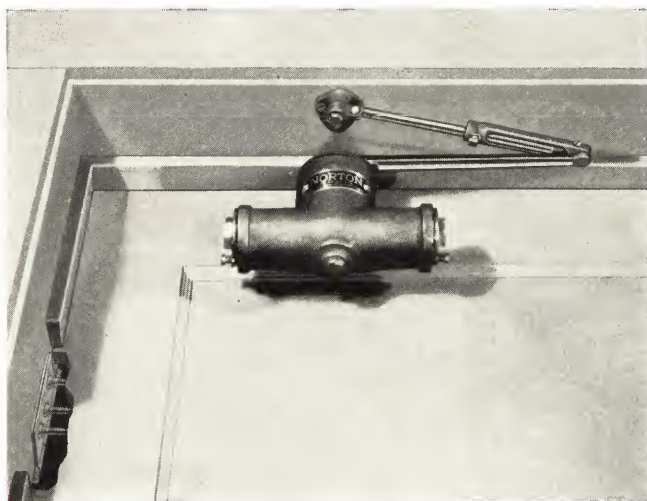
The same expert workmanship goes into the manufacture of the new Norton No. 04 Screen Closer as in the Norton No. 4. The same size cylinder is used and is made of seamless brass also. No. 04 conceals the spring in the cylinder. The leather washer inside the closer is one piece of carefully selected leather. It is offered at a surprisingly low price; packed in individual cartons with full instructions for applying. (To be installed on opposite the hinge side of door only.)

★ SLIDING GATE CLOSER . . .

The Norton Sliding Gate Closer for a sliding gate or door was designed for bank cage doors and sliding doors in offices where the gates must lock when the teller or clerk leaves the cage. Regular finish is gold bronze. Size No. 1 is for light grille gates, two to three feet wide weighing less than 100 lb. No. 2 size is for doors and heavy bar gates two to three feet wide weighing more than 100 lb. In ordering, give size, style of track, and state hand of door.



PARALLEL ARM CLOSER AND AUTOMATIC DOOR AND WINDOW HOLDERS



DOOR HOLDERS—Norton Door Holders operate on the same principle as the Norton Holder Arms but in this case no closers are used.

SIZE NO. 1—Suitable for windows and small doors not over 2 feet wide.

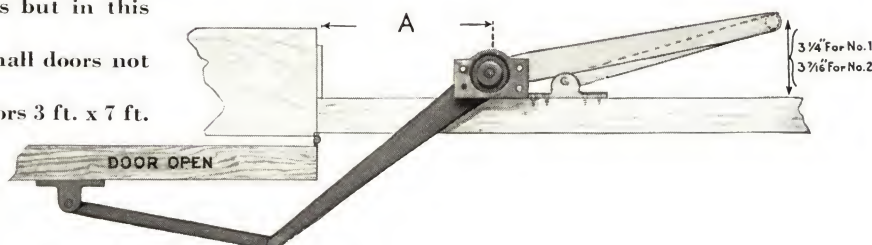
SIZE NO. 2—Suitable for windows and doors 3 ft. x 7 ft. Base plate $1\frac{1}{2}$ in. wide.

To open 90° , dimension A for size No. 1—6 in.; for size No. 2—9 in.

To open 180° , dimension A for size No. 1— $4\frac{1}{2}$ in.; for size No. 2—6 in.

This type of installation is used when there is not room between two doors for the closer with the arm in the usual position. It can also be used when there is not enough head room for the closer to be installed on a bracket.

We do not recommend the use of parallel arm closers when it can be avoided. Because of the way the closer has to operate, it cannot possibly give as satisfactory performance as when installed normally. There are two ways of making this installation—one for 90° opening and another for 180° opening. The 90° installation gives fairly satisfactory performance and can be used wherever there is room between the doors for the closer itself. (See table of dimensions on Page 7.) The 180° installation has much less power and control, and a size larger closer should be used than would normally be used on a door of that size and location.



NORTON HOLDER ARMS FOR DOUBLE DOORS WITH SOFFIT POSTS AND HINGE SIDE BRACKET

The Holder Arm with Soffit Post Bracket is designed for use on the standing door of a pair of doors. The appearance is similar to that of the operating door which is equipped with a Norton Holder Arm Closer on a soffit bracket.

This type of equipment is especially useful on doors to auditoriums and gymnasiums. While a crowd is entering, the operating door only is open and is held open by the holder arm on the closer. While the crowd is leaving, both doors are open and are held in position by the holder arms.

When the closer and arm are to be put on the hinge side of the doors, an arm with a hinge side bracket is furnished.



★ NORTON BRACKETS

The Norton brackets have been built to accommodate all door conditions. Special brackets are made to order.

1. **SOFFIT BRACKETS**—For use where there is room on the overhead jamb. This places the door closer to best advantage.
2. **CORNER BRACKETS** — Used only when door opens to 180° or when the head room is too low.
3. **FLUSH BRACKETS** — Used when the soffit (or jamb) is not wide enough to receive a soffit bracket.
4. **EXTENSION CORNER BRACKETS** — Used with Holder Arm Closers when extra rigidity is desired.
5. **G.J. CORNER BRACKETS** —Used to avoid interference with separate door holders.
6. **ADJUSTABLE BRACKETS** —Used for circular top doors when the closer is placed on opposite the hinge side of the door.
7. **OFFSET BRACKETS** — Used for circular top doors when the door closer is placed on the hinge side of the door.



★ GUARANTEE

We guarantee perfect operation of Norton Door Closers for two years providing proper recommended sizes are used.

Defects in workmanship or material appearing during this period will be promptly rectified.

★ DOOR CLOSER SPECIFICATIONS

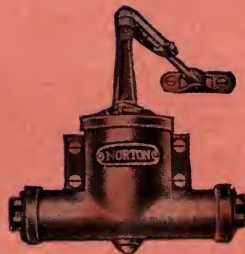
Door closers shall be rack and pinion type. Where required, they shall check the door in its opening swing. Rack and pinion shall be of cold rolled steel. Actuating spring shall be of flat motor clock type. Checking liquid shall be non-evaporating mineral oil of stabilized viscosity.

Holder Arm Closers, where used, shall be friction type with non-corrosive brass washer between discs. On completion of the installation, final adjustment of all closers shall be made by the manufacturer's factory representative. Closers shall be covered by a two-year factory guarantee.

NORTON

DOOR CLOSER

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**MADE IN A PLANT THAT IS DEVOTED
EXCLUSIVELY TO DOOR CLOSER
PRODUCTION**



GUARANTEED FOR TWO YEARS



**COSTS NO MORE THAN ORDINARY CRANK STYLE
DOOR CLOSERS**



SERVICE IS UNEQUALLED

NORTON DOOR CLOSER COMPANY

Division of the Yale & Towne Manufacturing Company

GENERAL OFFICE AND PLANT

2900-2918 North Western Avenue, Chicago, Ill.

Cable Address: "NODOCO, Chicago, Ill."
Bentley Code

BRANCH OFFICES

Norton Pacific Sales Co., San Francisco, Calif.

Norton Door Closer Co., New York, N.Y.

Representatives in All Principal Cities